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June 28, 2005

Ms. Tammy Koontz, Program Manager and Mr. Shelby Pittman
Office of Publications, Pre-Grant Publication Division
United States Patent and Trademark Office
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App. No.	:	10/709,305	Confirmation No. 3304
Publication No.	:	US 2005/0089700 A1	
Applicant	:	Katsuhiro Itakura, et al.	
Filed	:	April 28, 2004	

REQUEST FOR CORRECTED PATENT APPLICATION PUBLICATION

Dear Ms. Koontz and Mr. Pittman:

This constitutes a request that the publication of the above-identified application be corrected to replace numerous instances of garbled text with the legible text as originally filed.

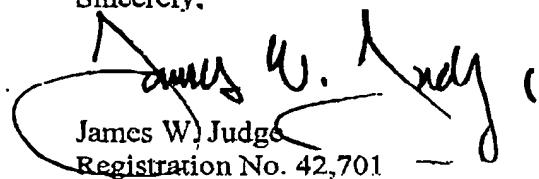
The application was published on April 28, 2005, and therefore the publication date is not older than two months.

Attached is a set of pages containing affected paragraphs from the publication version of this application, side-by-side with the corresponding paragraphs from the original application. The publication version is in the left-hand column, and the original version is in the right-hand column to allow for a ready comparison between the two versions.

To provide a listing of specific and detailed items for which correction is requested, the garbled or incorrect text is circled in the left-hand column, and the correct, original text is circled in the right-hand column.

Applicant believes the errors to be material to appreciating the technical disclosure of the invention in this application.

Sincerely,


James W. Judge
Registration No. 42,701

Attachment

Paragraph [0008]	
<p>[0008] Furthermore, with the size of laser diode chips that are bare-chip mounted onto heat sinks being a tiny 200 μm or so, 20 μm or less is demanded for their positioning precision. Solder films for semiconductor device mounting are conventionally formed by paste printing techniques, but such positioning precision cannot be handled with those techniques.</p>	<p>[0008] Furthermore, with the size of laser diode chips that are bare-chip mounted onto heat sinks being a tiny 200 μm or so, 20 μm or less is demanded for their positioning precision. Solder films for semiconductor device mounting are conventionally formed by paste printing techniques, but such positioning precision cannot be handled with those techniques.</p>
Paragraph [0009]	
<p>[0009] Given these demands, the photolithography-based technique is conceivable for forming solder films with such high positioning precision. Specifically, the technique forms a solder film onto a patterned resist layer by vapor deposition or plating, from which a partialized solder film where laser diode chips or other semiconductor devices will be mounted is created by a lift-off process. A semiconductor-device-mounting solder film can thus be formed with an outstanding positioning precision of 20 μm or less by this method.</p>	<p>[0009] Given these demands, the photolithography-based technique is conceivable for forming solder films with such high positioning precision. Specifically, the technique forms a solder film onto a patterned resist layer by vapor deposition or plating, from which a partialized solder film where laser diode chips or other semiconductor devices will be mounted is created by a lift-off process. A semiconductor-device-mounting solder film can thus be formed with an outstanding positioning precision of 20 μm or less by this method.</p>
Paragraph [0040]	
<p>[0040] A solder film can be produced by laminating such unit layers, but a thickness of some 3 μm or greater is normally necessary. The solder film is therefore preferably formed as a laminate of four or more unit layers, and further preferably as a laminate of six or more unit layers.</p>	<p>[0040] A solder film can be produced by laminating such unit layers, but a thickness of some 3 μm or greater is normally necessary. The solder film is therefore preferably formed as a laminate of four or more unit layers, and further preferably as a laminate of six or more unit layers.</p>

Paragraph [0041]

[0041] In an eleventh aspect the present invention affords a solder-film manufacturing method as described above, while being characterized in including a step of forming a solder film on a patterned resist layer, and patterning the solder film by a lift-off technique after the solder film is formed. This method enables forming on a heat sink a semiconductor-device-mounting solder film with positioning precision of some 20 μm or less, or, depending upon the conditions, of some 5 μm .

[0041] In an eleventh aspect the present invention affords a solder-film manufacturing method as described above, while being characterized in including a step of forming a solder film on a patterned resist layer, and patterning the solder film by a lift-off technique after the solder film is formed. This method enables forming on a heat sink a semiconductor-device-mounting solder film with positioning precision of some 20 μm or less, or, depending upon the conditions, of some 5 μm .